

Functions of Identity Scale: Turkish Validity and Reliability

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Abstract

The aim of the present study was to test the factor structure, convergent validity, and reliability of the Functions of Identity Scale (FIS) on a Turkish college sample. FIS is a 15-item, self-report instrument consisting of five scales. In line with the original version, both the exploratory and confirmatory factor analysis revealed a five-factor structure, each representing distinct functions of identity formation. Convergent validity of the instrument was proved via bivariate correlations with theoretically comparable scales. Finally, internal consistency coefficients, test-retest values, and item-total correlations demonstrated the reliability of FIS for Turkish use. Overall, the findings suggest that the Turkish version of FIS is a useful instrument to assess the diverse functions of identity among Turkish college students.

Key Words

Functions of Identity, Functions of Identity Scale, Identity Formation, Scale Validation.

Erikson (1959) described human psychosocial development in eight stages, each consisting of distinct developmental tasks that are characterized by a conflict. The conflict in every stage solves in either positive or negative outcomes. That is, if the conflict results in positive solution the developmental task is achieved and if it results in negative solution the task remains unachieved. He conceptualized identity development as the principal task of adolescence, which is a normative developmental process integral to understanding who one is and one's place in the world (Erikson, 1950, 1968). According to Erikson (1968, p. 50), ego identity

is the awareness of self-sameness and continuity and it is consistent across time. Adolescents form their unique identities by organizing developmental experiences and incorporating them with their current needs, interests and the demands of the social context. That is, identity is built upon childhood experiences (as reflected in the processes of introjections and identifications), however, during adolescence some of these introjections and identifications remain, while others are revised or entirely cancelled. In accordance with the theory, Erikson (1968) conceptualized the process of identity formation in a bipolar dimension with identity achievement on one end and identity confusion on the opposite end. According to him, an achieved identity is a clear, consistent and well-integrated structure, which includes a sense of personal direction, meaning and purpose in life. On the contrary, identity confusion represents the lack of a clear and stable sense of self-identity, direction and purpose on which to base a future adult identity (Schwartz, 2001).

Marcia developed the identity status model in an attempt to reify and research Erikson's identity conceptualization. On the basis of differences in the process of exploration and commitment, Mar-

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cia (1966) described four identity statuses; *Identity Achievement* is characterized by a commitment to certain beliefs, values and goals after a process of self-exploration; *Moratorium* is characterized by an ongoing process of self-exploration, where a commitment to goals and values is yet to be established; *Foreclosure* is characterized by a strong commitment to beliefs, values and goals, which however is not a result of in-depth exploration, rather identity foreclosed individuals conform and adopt the values of adult role models without much self-exploration; *Identity Diffusion* is characterized by neither a commitment to goals and values, nor an active engagement in self-exploration process.

Despite its widespread popularity among identity researchers, status model received much criticism for its limited conceptualization of Erikson's personal identity, its lack of cross-cultural generalizability and its underrepresentation of contextual and social factors in identity development (e.g., Côté & Levine, 1988; van Hoof, 1999). As a result of these criticisms, there were several attempts to broaden or develop the Eriksonian paradigm and several identity models have been introduced. Among these models, Adams and Marshall's (1996) conceptualization of Eriksonian identity formation, undertook identity in terms of its functions and have been influential in adolescent identity literature.

Building on Marcia's conceptualization of ego identity, Adams and Marshall (1996, p. 433) proposed that four identity statuses distinguish adolescents in two axis according to their active or passive engagement in the process of identity construction. According to them, active construction of identity means to use more cognition to understand who one is, which manifests itself in identity achievement and moratorium. On the other hand, passive construction of identity means to use more modeling and identifications to understand who one is, which manifests itself in identity foreclosure and identity diffusion. According to Adams and Marshall (1996), an active identity is a self-constructive and complicated internal system, which has its own psychological functions for the individuals. These functions are (Adams & Marshall, 1996, p. 433; Serafini & Adams, 2002): (i) Providing the structure for understanding who one is: Identity provides an awareness of oneself as an independent and unique individual. A sense of awareness in return, provides the structure for self-certainty, as well as self-esteem for the individual. (ii) Providing meaning and direction through commitments, val-

ues, and goals: Identity provides a basis on which to direct or manage behaviors. (iii) Providing a sense of personal control: Identity provides capacity for self-expression and a sense of free will and autonomy. (iv) Providing consistency, coherence, and harmony between values, beliefs and commitments: Identity provides self-synthesis and integration across time, which results in a sense of peace with one's self. (v) Providing the ability to recognize potential in future possibilities and choices: Identity provides purpose for the future that gives chance to fulfill one's potential.

According to Serafini and Adams (2002, p. 365) these functions of identity can partly be referred to "an optimal sense of identity". Drawing from several studies with adolescents, Adams and Ethier (1999 as cited in Serafini & Adams, 1992, p. 363) further defined the relative meaning of each function of identity for the individuals. Accordingly, the first function of identity (providing structure) manifests itself in higher self-esteem, self-acceptance, positive self/body image; the second function of identity (providing goals) manifests itself in commitment, self-direction and goal-direction; the third function of identity, (providing a sense of control) manifests itself in free will and resistance to pressures of conformity; the fourth function of identity (providing harmony) manifests itself in social and academic adjustment; and the last function of identity (providing future orientation) manifests itself in academic achievement, future career goals/aspirations and future determination.

Drawing from Adams and Marshall's (1996) model, Serafini and Adams (2002) and more lately Serafini, Maitland and Adams (2006) designed an instrument assessing the functions of identity for the individuals. Serafini and Adams (2002, p. 365) states that the need for a measure to assess the functions of identity stems from the failure of several scales to measure the outcomes of identity development. Thus, the scale aims to measure what having a well synthesized or well constructed sense of self provides a person. Functions of Identity Scale operate on the outcomes of identity formation, rather than the development process of identity itself. These outcomes manifest themselves in the forms of identity functions, which provide structure, harmony, future orientation, goal direction and personal control, as described in detail earlier in the article. On the other hand, while identity formation among young people becomes a core issue during middle adolescence, late adolescents also face the challenge of identity development (Erik-

son, 1968). Especially identity formation regarding values, future plans and choices, becomes a major task throughout late adolescence (i.e. emerging adulthood) rather than middle adolescence (Arnett, 2000; Erikson, 1968; Rindfuss, 1991).

Identity formation in adolescence has long been one of the major research themes among Turkish researchers. In Turkey identity research centers around -but not limited to- the diverse conceptualizations of identity; such as identity statuses (e.g., Çakır & Aydın, 2005; Dereboy, Dereboy, Sevinçok, & Kaynak, 1999; Eryüksel, 1987), identity styles (e.g., Çelen & Kuşdil, 2009; Derelioğlu & Demir, 2007) and identity orientations (e.g., Carpenter & Karakitapoğlu-Aygün, 2005; Coşkun, 2004). While there are several studies evidencing how an achieved identity provides diverse positive outcomes -such as self-efficacy, self-monitoring, coping, well-being- for the individual (e.g., Demir, Dereboy, & Dereboy, 2009; Eryiğit & Kerpelman, 2009; Karakitapoğlu-Aygün, 2004; Kumru & Thompson, 2003), there exists no instruments in Turkish to directly measure the outcomes (i.e. functions) of identity formation. Given this, the purpose of the present study is to test the psychometric properties of Functions of Identity Scale on Turkish college students and provide a useful device to assess the outcomes of a well-integrated identity in Turkey.

Method

Participants

Participants were 224 undergraduate students (118 female, 106 male) who were randomly selected from various departments of Istanbul University, Faculty of Education during the spring 2010 semester. Participants' age ranged from 18 to 23 ($M=19.98$). The distribution of the participants according to their specialties was as follows: 32.6% Guidance and Psychological Counseling ($n=73$), 16.1% Social Science Education ($n=36$), 18.3% Turkish Education ($n=41$), 14.3% Mathematics Education ($n=32$) and 18.8% English Education ($n=42$).

Instruments

The Functions of Identity Scale (FIS; Serafini et al., 2006) has been used in order to test its validity and reliability within the Turkish context. FIS is a 15-item, self-report, five point likert type instrument that assesses the different functions of identity

namely, structure, harmony, goals, future and control. The earliest version of the scale consisted of five dimensions with 22 items (Serafini & Adams, 2002). Subsequent research in the following years has resulted in five dimensions with a total number of 15 items (Serafini et al., 2006). In this latest version, structure scale consists of three items (e.g., *I am certain that I know myself*), harmony scale consists of three items (e.g., *My values and beliefs reflect who I am*), goals scale consists of three items (e.g., *I have constructed my own personal goals for myself*), future scale consists of three items (e.g., *I am clear about who I will be in the future*) and control scale consists of three items (e.g., *The decisions I make about how to behave and act are based on my personal choices*). Item responses range from 1 (*never describes me*) to 5 (*always describes me*). The instrument is scored by adding up the responses to all the items in each dimension, providing five distinct scores for each individual. Higher scores in each scale indicate higher levels of characteristics represented by the scale. The alpha coefficients of the five scales in FIS are reported as .80 for structure, .77 for harmony, .80 for goals, .82 for future and .65 for personal control. Upon the permission of the author, the original scale has been translated to Turkish by a professional translator and back translated to English by another professional translator. Both the Turkish and the English translations have been reviewed by four scholars holding PhDs at Guidance and Psychological Counseling. After the final revisions, the scale has been administered to the participants.

Psychological Well-Being Scales (PWS; Ryff, 1989) have been used to assess the convergent validity of functions of identity scale. PWS is a 84 item six point likert type instrument including six scales each consisting of 14 items namely, Autonomy, Environmental Mastery, Purpose in Life, Self-Acceptance, Positive Relations with Others and Growth. Scores for each scale is calculated by summing the item points and higher scores in each scale indicate higher levels of characteristics represented by the scale. The alpha coefficients of the six scales in the original PWS are reported as .93 for Self-Acceptance, .91 for Positive Relations with Others, .86 for Autonomy, .90 for Environmental Mastery, .90 for Purpose in Life and .87 for Personal Growth. Turkish adaptation of the scale was done by Cenkseven (2004) and proved to be valid for Turkish use. Cronbach's alphas of the Turkish version of the scales were reported as .79 for Self-Acceptance, .83 for Positive Relations with Others, .78 for Autonomy, .77 for Environmental Mastery, .76 for Purpose

in Life and .74 for Personal Growth. Autonomy, Self-Acceptance, Purpose in Life and Growth, four of the subscales of PWB, have been used for convergent validity of FIS.

Connectedness, one of the subscales of *Future Time Perspective Scale* (FTP; Husman & Shell, 1996), has also been used to assess the convergent validity of functions of identity scale. Future Time Perspective scale is a 27 item, five-point likert type instrument including four subscales namely, Extension (5 items), Speed (3 items), Connectedness (12 items), and Value (7 items). Scores for each scale are calculated by dividing the sum of items by the number of items and higher scores in each scale indicate higher levels of characteristics represented by the scale. The cronbach's alphas of the original subscales were .82 for Connectedness, .72 for Value, .72 for Speed and .74 for Extension. Turkish adaptation of the scale was done by Avcı and Erden (2009) and proved to be valid for Turkish use. Cronbach's alphas of the Turkish version of the subscales were .82 for Connectedness, .66 for Value, .67 for Speed and .76 for Extension.

Analysis

To test the structure validity of the Turkish translation of FIS, explanatory and confirmatory factor analysis were performed. For convergent validity, bivariate correlations with theoretically comparable scales were performed. For item analysis; t-tests to analyze the difference between the upper and lower 27% scores of items and item-total correlations were calculated. To test the reliability of the instrument; internal consistency coefficients and test-retest values were calculated. Finally, to demonstrate the relationships among FIS dimensions bivariate correlations were performed. Lisrel 8.50 and SPSS 16.00 were used for the analysis of the data in this study.

Results

Exploratory Factor Analysis

In order to test the structure validity of the instrument, a principal component analysis with oblique rotation (direct oblmin) has been applied. Extracting factors with Eigen values over 1.00, was the primary criterion to decide the number of factors retained for rotation (Büyüköztürk, 2002; Tabachnick & Fidell, 2001). Accordingly, five factors with eigen values higher than 1.00 retained for the analysis. KMO (.80) and Bartlett Sphericity

($\chi^2=1200$; $p<.000$) values have found to be adequate for satisfactory factor analysis. Results of the principal component analysis yielded five factors loading between .90 and .65 and explaining 68.8% of the total variance. The first factor (3-item structure scale) explains 32.5% of the total variance. The second factor (3-item harmony scale) explains 11.9% of the total variance. The third factor (3-item goals scale) explains 9.5% of the total variance. The fourth factor (3-item future scale) explains 7.7% of the total variance. The fifth factor (3-item control scale) explains 7.2% of the total variance. The factor loadings for each scale are presented in Table 1. In the present form, all items retained their original factor loadings, loading higher than .65.

Table 1.
Means, Standard Deviations and Factor Loadings of FIS.

	M	Sd	Factor Loadings
Structure	11.72	2.12	
Item no1	4.00	.83	.75
Item no 6	4.03	.86	.80
Item no11	3.68	.98	.70
Harmony	12.14	2.05	
Item no 2	4.32	.79	.71
Item no 7	3.89	.86	.82
Item no 12	4.00	.82	.86
Goals	11.83	2.13	
Item no 3	3.93	.87	.66
Item no 8	4.05	.82	.76
Item no 13	3.83	.84	.86
Future	10.20	2.32	
Item no 4	3.03	.90	.90
Item no 9	3.39	.99	.80
Item no 14	3.77	.92	.65
Control	11.80	1.97	
Item no 5	3.91	.77	.71
Item no 10	3.86	.81	.89
Item no 15	4.02	.80	.81

Confirmatory Factor Analysis

The model fit was evaluated via Confirmatory Factor Analysis using the structural equation modeling program LISREL 8.50 (Joreskog & Sorbom, 2001). The analysis were performed on the 15 identity functions items and the maximum likelihood method of estimation was used. No cross-loadings and correlated measurement errors were allowed in the model (Kline, 2005). To evaluate the fit of the

defined model, the primary fit indices were determined as follows: The ratio of the chi-square statistic to the degrees of freedom (χ^2/df) should be less than 2 (Tabachnick & Fidell, 2001); the Goodness of Fit Index (GFI), the Comparative Fit Index (CFI), and the Non-Normed Fit Index (NNFI) should exceed .90 (Hu & Bentler, 1999; Sümer, 2000; Tabachnick & Fidell, 2001); the Root Mean Square Error of Approximation (RMSEA) should be less than .05, with values less than .06 representing good fit (Hu & Bentler, 1999); and the Standardized Root Mean Squared Residual (SRMR) should not exceed .05 (Brown, 2006). Resulting fit indices clearly revealed that the five-factor model of identity functions provided a good fit to the data [$\chi^2=157.15$, $df=80$, ($\chi^2/df=1.96$), $RMSEA=0.06$, $GFI=0.91$, $CFI=0.93$, $NNFI=0.90$, $SRMR=0.05$].

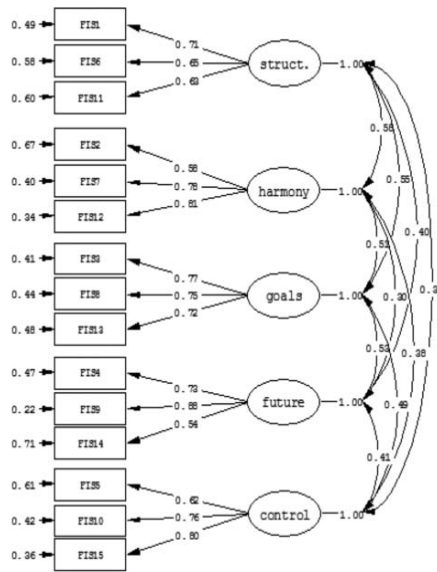


Figure 1.
Standardized Solution of the Five-Factor Model of the Functions of Identity.

Convergent Validity

In order to test the convergent validity of the instrument, FIS, PWB-Autonomy, PWB-Self-Acceptance, PWB-Purpose in Life, PWB-Growth and FTP-Connectedness scales were administered to a second group of university students. Participants were 350 undergraduate students (247 female, 103 male) enrolled in Istanbul University, Faculty of Education during the spring 2010 semester. Participants' age ranged from 18 to 25 ($M=20.87$). The distribution of the participants according to their specialties was as follows: 39.71% Guidance and Psychological Counseling ($n=139$), 8.28% Social Science Education ($n=29$), 12.57% Turkish Education ($n=44$), 11.42% Mathematics Education ($n=40$) and 22.28% English Education ($n=78$). 5.71% French Education ($n=20$). The decision for using these scales for convergent validity was based on the underlying characteristics represented by each scale. The first function of identity, namely structure, focuses on self-understanding therefore, it is expected that a measure of self-acceptance would correlate with this function (Serafini & Adams, 2002, p. 372). Thus, it is anticipated that PWB-self-acceptance scale should correlate positively with FIS-Structure. The second function of identity, namely goals, centers on commitments and goals (Serafini & Adams, 2002) thus, PWB-purpose in life scale should positively correlate with this function. The third function of identity, namely control, is to provide a sense of personal control and free will (Serafini & Adams, 2002, p. 373) therefore, it is likely to correlate with PWB-autonomy scale. The fourth function of identity, namely Harmony, represents consistency, coherence and harmony between values, beliefs and commitments. As the PWB-growth scale represents how well the individual deals with his/her commitments and values, these two scales were hypothesized to be correlated. Fifth function of identity is future, meaning a focus on the future and one's ability to realize future chances of fulfilling one's potentials (Serafini & Adams, 2002, p. 374). The connectedness scale

Table 2.
Correlations Among FIS Scales, PWB-Dimensions and FTP-Connectedness

	Structure	Harmony	Goals	Future	Control
Self-acceptance (PWB)	.46**				
Growth (PWB)		.23**			
Purpose in Life (PWB)			.32**		
Connectedness (FTP)				.20**	
Autonomy (PWB)					.31**

** $p<.01$

of FTP is intended to measure the ability to make connections between present activities and future goals (Husman & Shell, 2008) thus; these two scales were also hypothesized to be associated.

In line with the hypotheses, FIS-structure was positively correlated to PWB-self acceptance; FIS-Harmony was positively correlated to PWB-Growth; FIS-Goals was positively correlated to PWB-Purpose in Life; FIS-Control was positively correlated to PWB-Autonomy and FIS-Future was positively correlated to FTP-Connectedness (Table 2).

Item Analysis

The items of FIS were analyzed via computing item-total correlations for each scale and t-test values were computed to compare both the item and scale scores of upper and lower 27%. All item-total correlation coefficients fell within the range of .75-.86. Likewise, all t-values for the difference between

the scores of upper and lower 27% of items and scales found to be significant (Table 3).

Reliability Analysis

Cronbach Alpha Coefficients and test-retest coefficients were computed for reliability studies. Cronbach Alpha Coefficients were calculated as .70 for structure scale, .76 for harmony scale, .80 for goals scale, .75 for future scale and .77 for control scale, which were quite parallel to the original alphas. Test re-test study was conducted with a sample of 45 undergraduate students from the department of Guidance and Psychological Counseling. The questionnaire has been administered to the research group two times in two weeks period. Test re-test coefficients were found to be .67 for structure scale, .60 for harmony scale, .80 for goal scale, .69 for future scale and .71 for control scales (all p 's < .01).

Table 3.

Item-total Correlations and Difference between Item and Scale Scores of Upper and Lower 27%

	Lower 27%		Upper 27%		t	Item-total r
	M	Sd	M	Sd		
Structure	10.15	.73	14.03	.66	30.44**	
FIS1	3.66	.50	4.68	.46	-11.36**	.78*
FIS6	3.43	.72	4.85	.36	13.60**	.78*
FIS11	3.05	.83	4.50	.53	11.34**	.79*
Harmony	9.50	1.64	14.38	.58	-21.70**	
FIS2	3.53	.99	4.83	.37	-9.43**	.75*
FIS7	2.88	.78	4.70	.46	-15.47**	.84*
FIS12	3.08	.76	4.85	.36	-16.17**	.85*
Goals	9.13	1.53	14.26	.73	-23.37**	
FIS3	2.96	.75	4.81	.39	-16.80**	.84*
FIS8	3.18	.83	4.81	.39	-13.74**	.84*
FIS13	2.98	.70	4.63	.55	-14.33**	.84*
Future	7.33	1.56	12.85	1.11	-22.18**	
FIS4	2.18	.70	4.00	.66	-14.57**	.83*
FIS9	2.30	.78	4.38	.52	-17.06**	.86*
FIS14	2.85	.87	4.46	.53	-12.15**	.75*
Control	9.31	1.91	13.73	.68	-16.79**	
FIS5	3.15	.87	4.48	.53	-10.02**	.78*
FIS10	2.98	.89	4.46	.59	-10.70**	.85*
FIS15	3.18	.91	4.78	.41	-12.37**	.84*

* $p < .01$, ** $p < .000$

Correlations among Identity Functions

Associations among five scales of FIS were analyzed via computing bivariate correlations. As shown in Table 4, results of the Correlation Analysis, yielded positive relationships between five functions of identity ($p<.01$) and the associations were moderate in magnitude.

Table 4.
Correlations among Functions of Identity Scales

	1	2	3	4	5
Structure	1				
Harmony	.44**	1			
Goals	.40**	.41**	1		
Future	.27**	.23**	.44**	1	
Control	.24**	.28**	.40**	.32**	1

** $p<.01$

Discussion

Functions of identity scale (Serafini et al., 2006) is an instrument designed to assess five functions of identity, namely structure, harmony, goals, future and personal control. The original scale was developed in English and the present study was conducted to test the validity and reliability of the Turkish translation of FIS. For this purpose, exploratory and confirmatory factor analysis were conducted. The results of the factor analysis verified the five factor structure of identity functions among Turkish college students, with the model having a good fit to the data. Convergent validity between FIS scales, FTP-Connectedness and four of the PWB dimensions (namely, autonomy, self-acceptance, personal growth and purpose in life) was also confirmed as previously hypothesized. Item analysis of FIS revealed that all items were strongly associated with FIS scales and the difference between upper 27% and lower 27% item scores was found to be significant. Finally FIS was proven to be a reliable instrument, which was demonstrated by cronbach's alpha and test re-test coefficients. The five functions of identity was theorized as related, rather than mutually exclusive processes (Serafini & Adams, 2002) therefore, the five scales were hypothesized to be positively associated. In line with the expectations, the five scales of FIS were found to be positively associated in the present study. These findings replicate the validity of 15 item-five factor model of Functions of Identity Scale in Turkish college students, as demonstrated in US and Ital-

ian samples (Crocetti, Sica, Schwartz, Serafini, & Meeus, 2010; Serafini & Adams, 2002; Serafini et al., 2006).

On the other hand, Functions of Identity Scale have originally been designed to assess the functions of a well-integrated identity for the individuals and since the formation of a mature identity is expected to take place throughout late adolescence, it was originally tested on college student samples (see Serafini & Adams, 2002). Parallel with the original research, the Turkish validation of FIS was also tested on Turkish college students; however the psychometric properties of FIS should further be tested among middle adolescent samples, who also face the task of forming a well-integrated identity. Another recommendation that should be addressed for further research is, to test whether different functions of identity have diverse outlooks for different ego identity status categories (namely moratorium, achievement, diffusion and foreclosure) and whether the scores on each identity function differentiate between active and passive identity statuses (see Adams & Marshall, 1996). Finally, further research should address the contextual and psychological processes leading to high and low functioning identity constructs within the Turkish context.

Overall, the results of this study suggest that the Turkish version of the FIS is a useful tool to assess the diverse psychological outcomes of the process of forming a healthy identity. Furthermore, results of the present study provide further evidence that the five-factor structure of Functions of Identity Scale is generalizable across nations.

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